April 19, 2017 Fontenelle Working Group Meeting Notes

Dale Hamilton

- Introduction

Ashley Nielsen

- Weather
  - December – Weather pattern changed to Atmospheric Rivers or the Pineapple Express. This year, they were powerful enough to penetrate inland.
  - December, January and February brought above average precipitation, greater than 200% and 300% in some areas. This resulted in a record 3-month precipitation total
  - March – wet pattern continued for the Upper Green River Basin. Also, the basin saw higher than normal temperatures in March
- Snowpack Conditions
  - The higher temperatures in March brought down the mid-elevation snow
  - Snow totals for this year have been near record, currently at 171% of normal. In the ballpark of 2011 and 96
- Water Supply forecasts
  - Forecast progressed from 128% in January, 166% in Feb, 232% in March, 232% in April. This is near the historical record for the basin in 86
  - Even if we really dry out, we will still have flows much above normal
  - This year's forecast is around 1680 KAF, which is off the model calibration chart. There are just not many years that we've seen like this year. This means we may not have a good simulation for the forecast this year (high level of uncertainty).
  - Model soil moisture states – current conditions are near their max
  - Demands and diversions also affect the model assumptions and uncertainty
- Upcoming Weather
  - More storms coming up in the next week or so (first part of May)
  - Chance for normal temperatures with 50% chance of greater than average precipitation
  - This transitions to cooler than average and wetter than average over the 8-14 day forecast

Jed Parker

- Review of 2016 Operations
  - Inflows ended up being much higher than predicted
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- Current Operations
  - 148k acft out of 345k acft or 43% of full
  - Releasing 5000 cfs
  - We had a record march inflow of 180k acft, previous record in 1986 was 98.7k acft
- Review of snowpack
  - Currently at ~170% of average

    - Looking at a higher than average chance of precipitation
- Historic operations
    - 1997 – released 11,000 cfs, flooding low-lying areas
    - We may see similar operations this year
- 2017 Operations
    - This year, we've reduced the water elevation and plan to continue reduction elevation in Fontenelle to 6463 in late April. The typical target is 6468
    - Projected peak release is 8,500 cfs
    - Range of probable inflows: 11,700 to 16,300 cfs
    - The high would put us at 10,000 cfs for 44 days and the low 8,500 for 11 days
- Possible record
- Planning to safety pass flows without use of the spillway to avoid exceeding flood stage of 10,000 cfs
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Questions/Comments:

- Concern with forecast updates of flow near green River
    - Go to Colorado basin River Forecast Center site to get updated forecasts.
    - Water supply forecasts are updated every couple of weeks, streamflow forecasts get updated daily
- Average changed to Median, how do they get a feel for what was seen in 86 when it didn't have the 2000 to 2015 in the model. This year is the highest precipitation we've seen on record or even in the 80's
- The reduction to 6463 will mean boaters will not be able to launch. This would buy 3 days of runoff to help lower potential flooding
- As we progress into the season, concerns with flooding at powerplant intake – looking for updates
    - The 10-day forecasts are based off of scheduled releases
- In the 97 scenario, they has about a 1000 cfs coming in at the Sandy
    - The flood stage at Green River is 11,000 cfs, so there is some lee-way to account for some tributary flows coming in below Fontenelle
    - They've had several instances where tributary flow have impacted Green River
- If the rip rap were extended to a lower elevation, how would that change operations?
    - We would have more operational flexibility, but we couldn't start releasing till mid-march. It may not make that much of an impact, you're only gaining a small amount of volume in the lower elevations. Power generation is not possible, though, at that point (where the riprap stops 6455) We want to maintain at least to 6460 to give some